

Mr. Bill's Show



COMPLETE DENTURE IMPRESSION

Removable Prosthodontic Department
Pharos University

Terminology

- **Impression** : an impression is an imprint or negative reproduction of an object from which a positive likeness or cast can be made.
- **Preliminary impression**: it is an impression made in a stock tray for making a study cast on which a custom tray is constructed.
- **Final impression** : it is an impression made in custom tray and it is used for the purpose of making the master cast on which the denture is constructed.

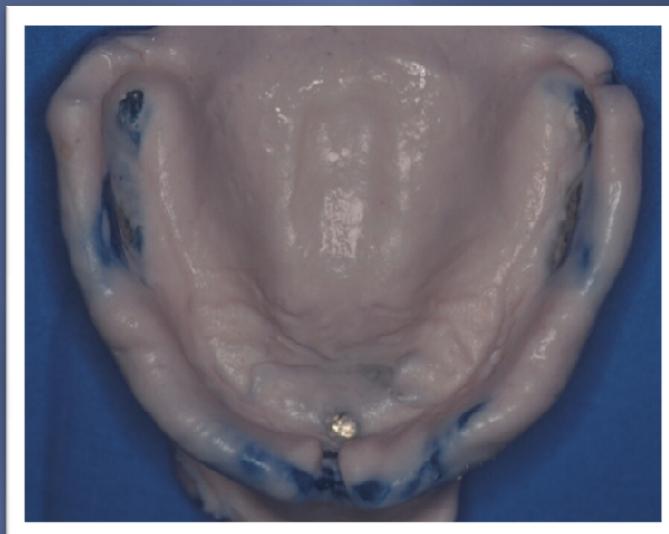
Requirements of impression

- ❑ Maximum allowable coverage for support
- ❑ Selective placement of force
- ❑ Impression border should be harmonious with the limiting structures
- ❑ Recording fine details.

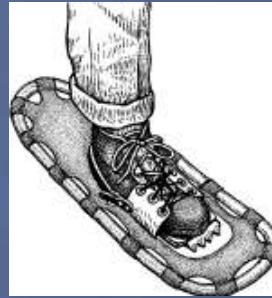


1- Preservation

- Preservation of the remaining tissues is the main objective.
- Pressure in the impression technique is reflected as pressure in the denture base and results in soft tissue damage and bone resorption.



2- Support



- It is the resistance to vertical component of force applied in a direction towards the basal seat.
- Wide distribution of force so reduce load per unit area and so preservation of the supporting structures.

3- Stability



- ❑ It is the resistance to horizontal movement.
- ❑ Denture stability affected by:
 - Size and form of the basal seat
 - Quality of the final impression
 - Form of the polished surface
 - Proper location and arrangement of the artificial teeth.



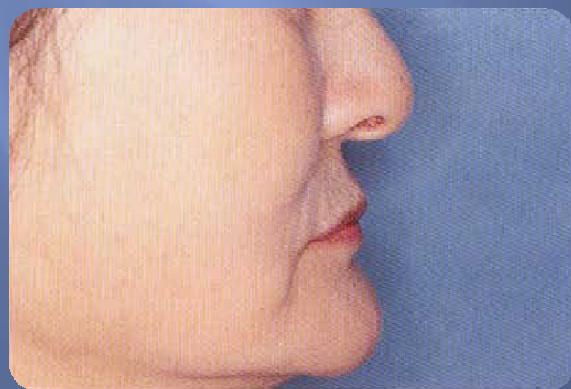
4- Retention



- ❑ It is often achieved when other factors are maintained.
- ❑ Proper impression should extended adequately to the limiting structures without impingement on the movable tissues.
- ❑ Once the peripheral seal is gained other physical means become more applicable.

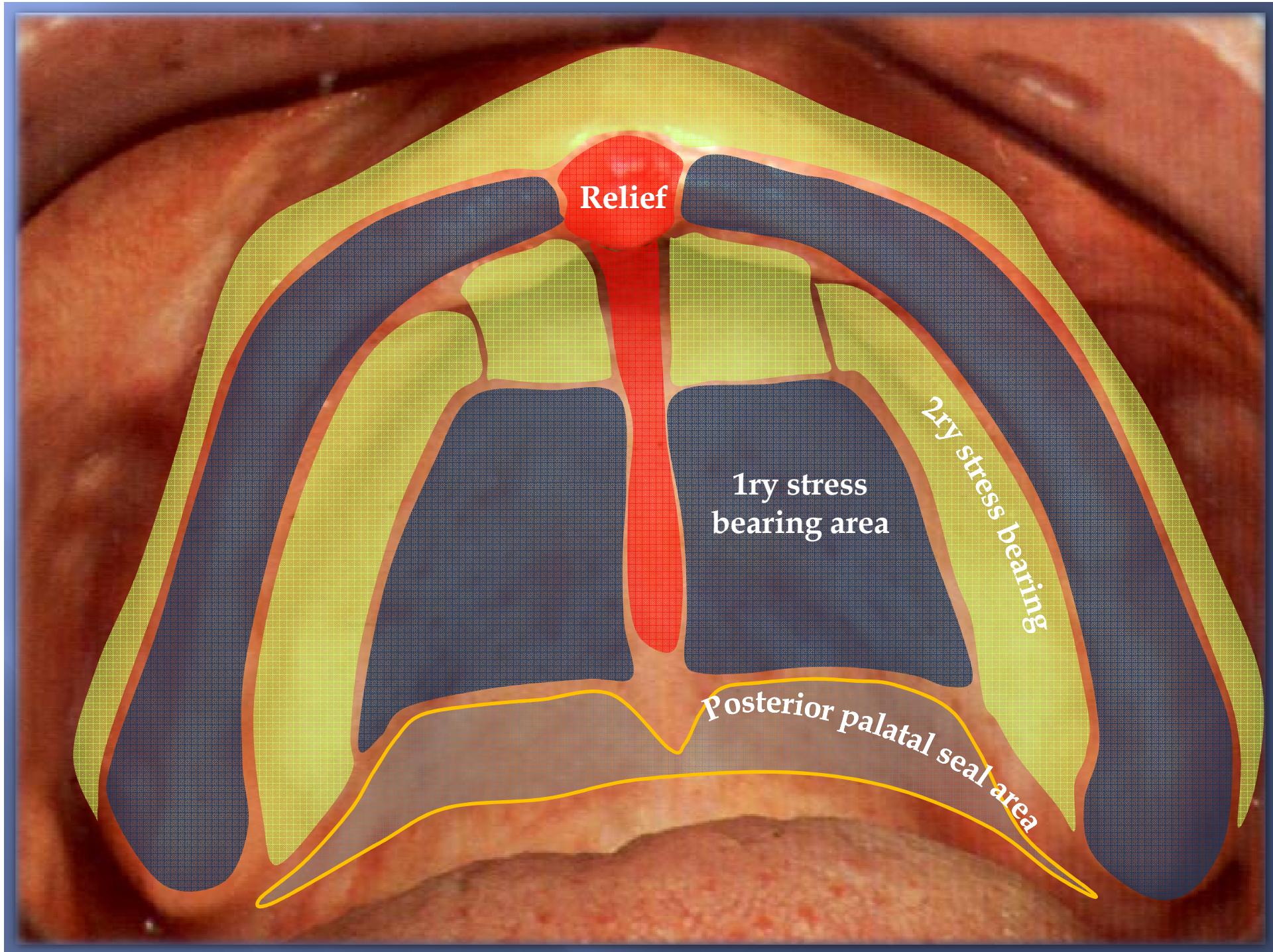
5- Esthetics

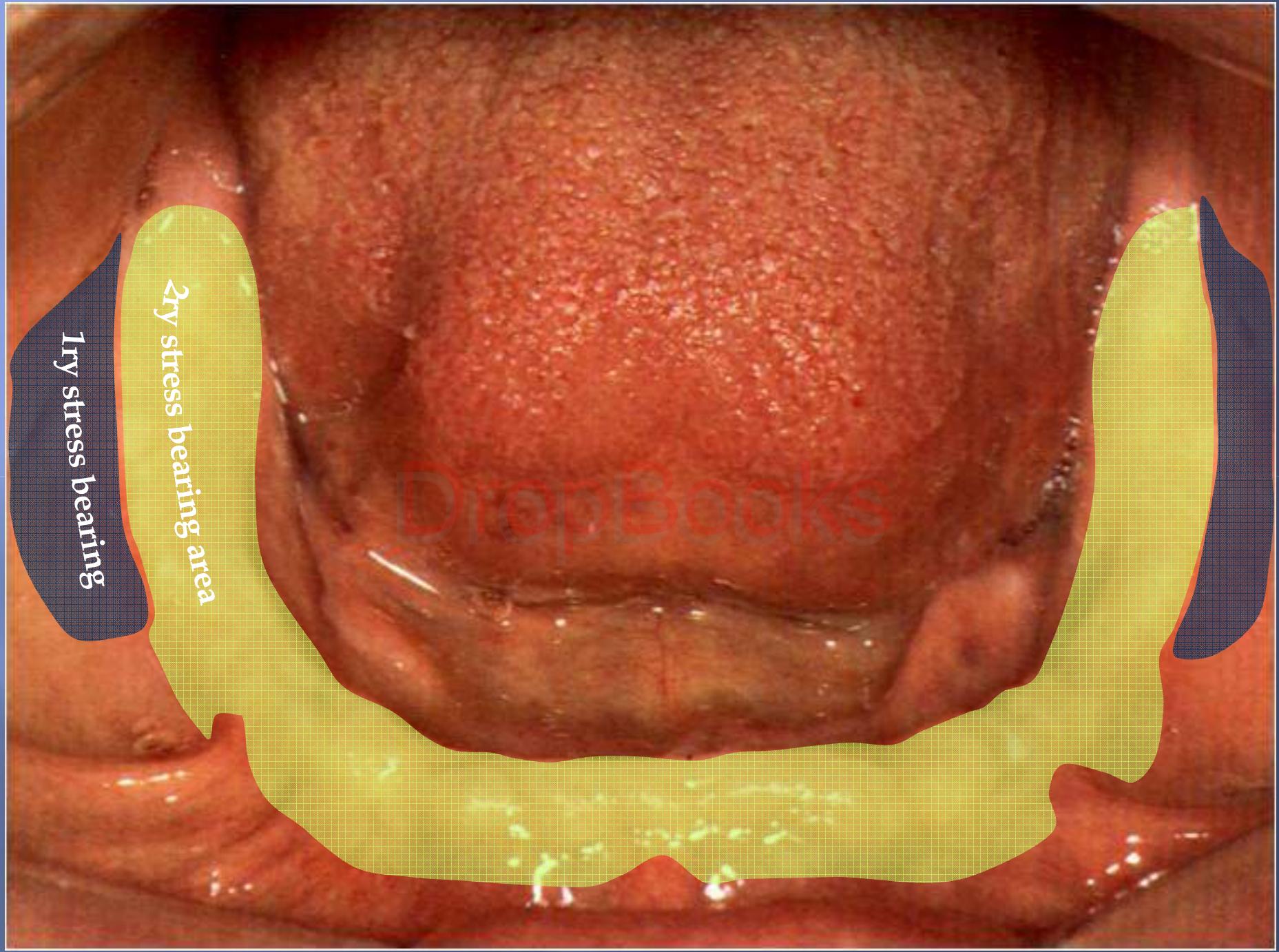
- Border thickness should be varied with the needs of each patient in accordance with the extent of residual ridge loss.
- The border should restore the facial appearance but without over-contouring.

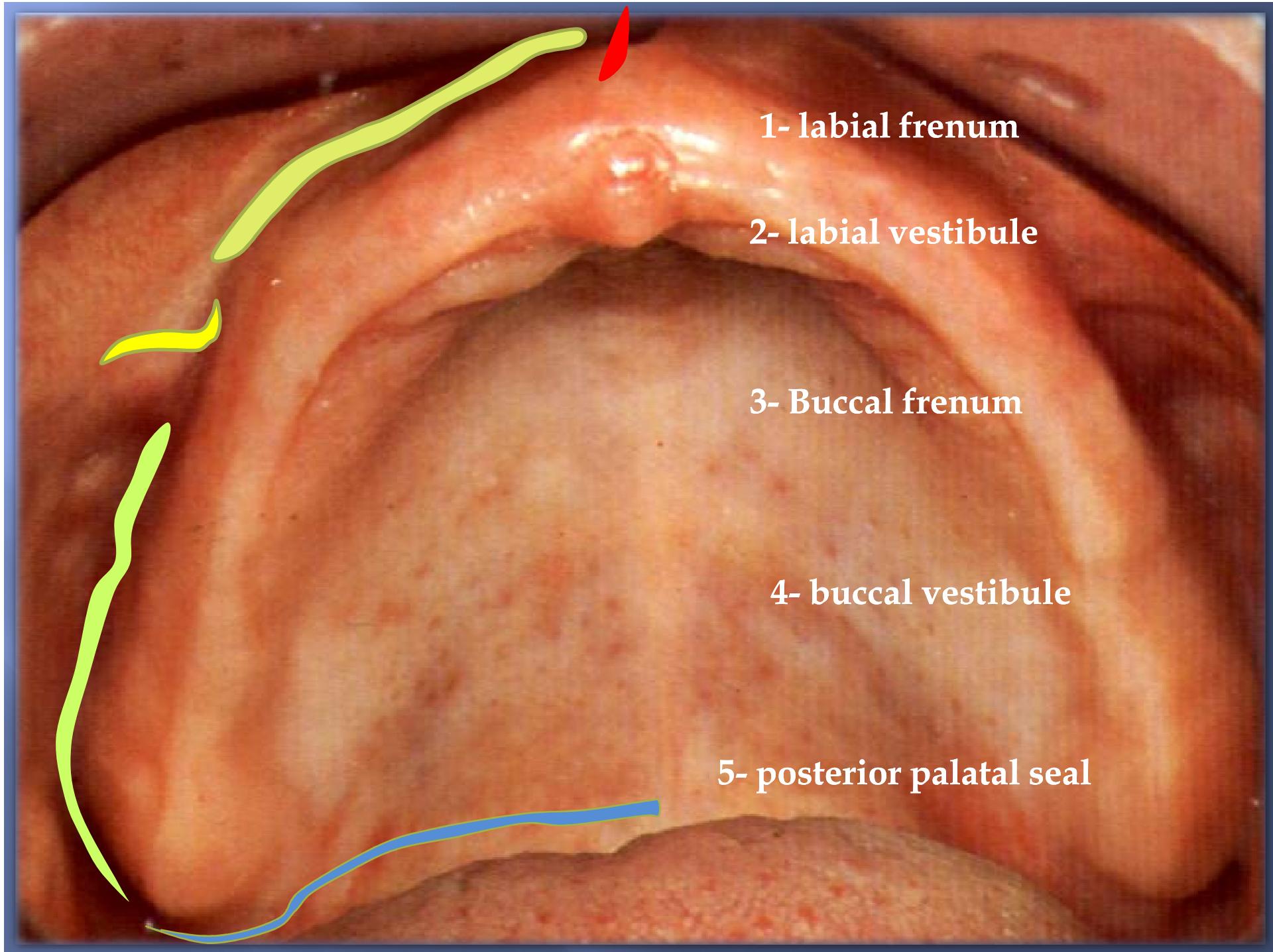


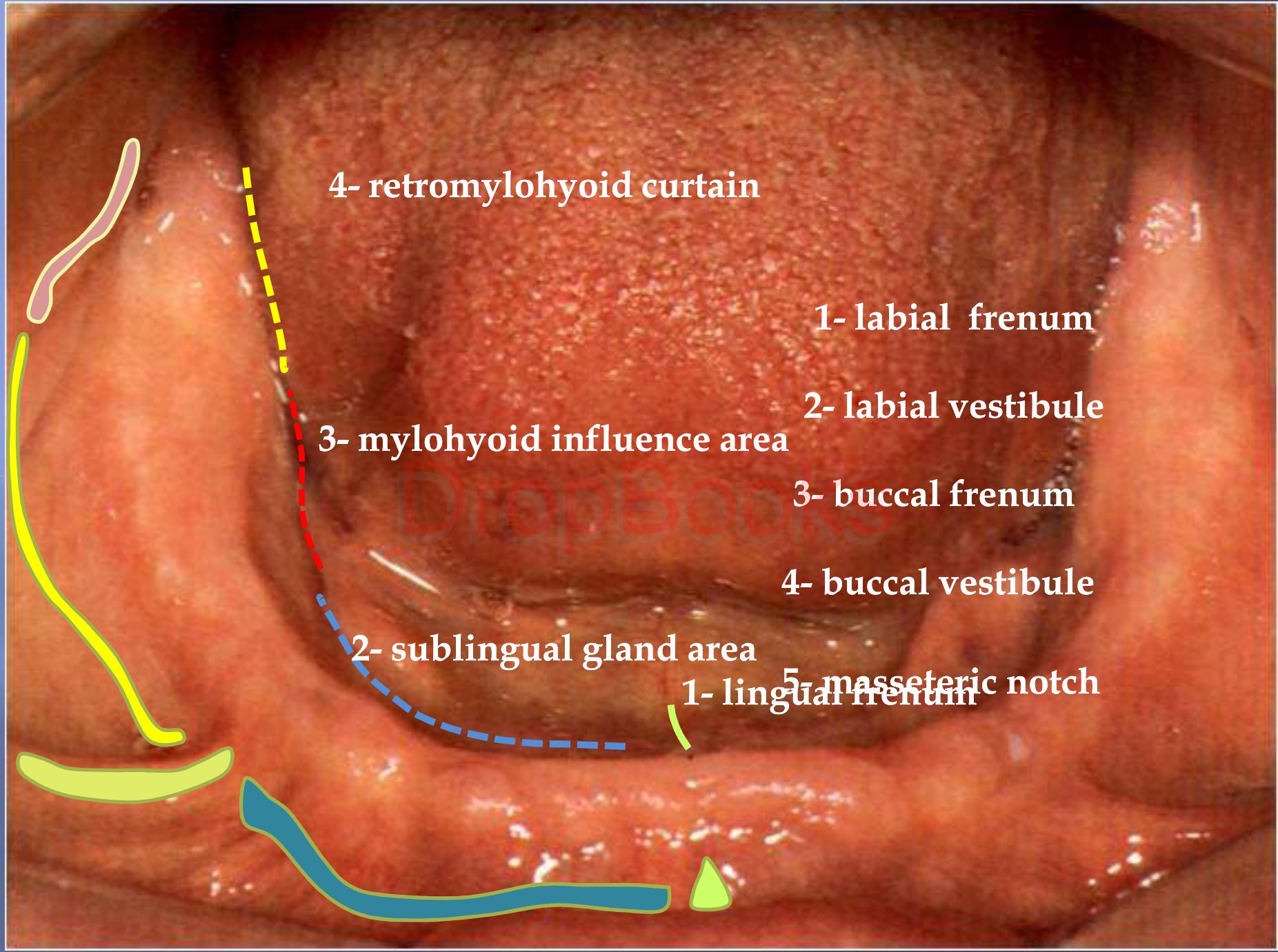
Anatomical considerations

DropBooks









Preliminary
impression

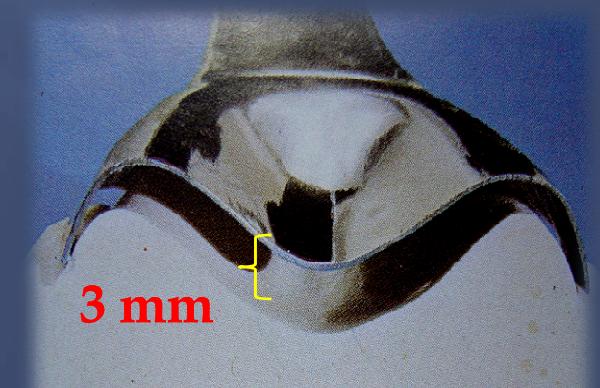
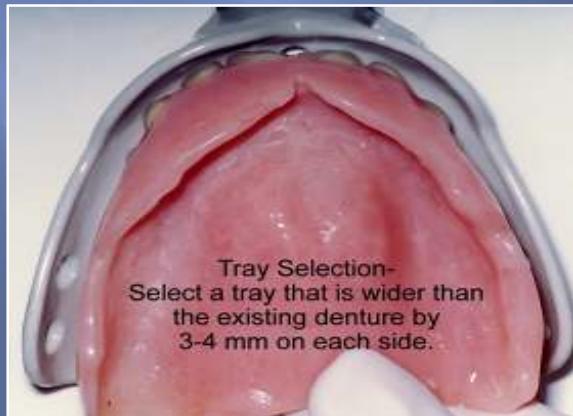
Preliminary impression

- **Purpose:**
 - for diagnosis and construction of custom impression trays.
- **Requirements:**
 - must capture all intraoral landmarks i.e. retromolar pads, retromylohyoid space, hamular notches, etc.
 - must essentially capture the 3-D contours of the vestibular borders of the limiting structures.
- An accurate preliminary cast records all anatomic landmarks that should be covered by a denture and permits fabrication of properly extended custom trays that will expedite border molding and facilitate a quality final impression.

Selection of the stock tray

□ Selection of upper tray

- Select a tray that is at least 3 mm larger than the residual ridge.
- Caliper could be used to facilitate size selection.



Stock tray selection

- Use the caliper to measure the width of the residual ridge just below retromolar pad. This can be done on the existing denture, as shown, or in the patient's mouth.



- The tray should provide space for 3 mm bulk of impression material.



Stock tray modifications



Cutting areas of impingement



Adding palatal vault and distobuccal areas



Wax border molded to adjust borders



Preliminary Alginate impression

Materials and instrument set-up

- Alginate
- Tray Adhesive
- Edentulous stock trays
- Rubber mixing bowl
- Round edge spatula
- Periphery wax
- Mouth mirror
- 2x2 gauze
- Water bath



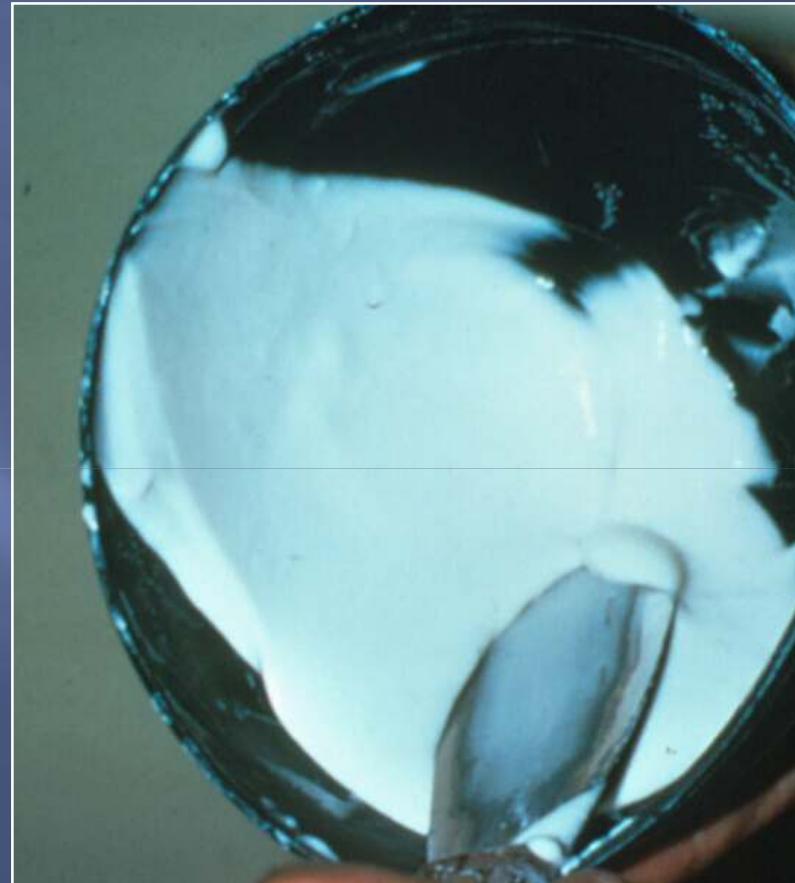
- ❑ **Tray selection**
- ❑ **Tray modification could done using compound or wax. Warm the periphery wax in a warm water bath.**
- ❑ **Border molding done by inserting the tray in patient's mouth and “border mold” the periphery wax to the intraoral contours of the lips and cheeks.**



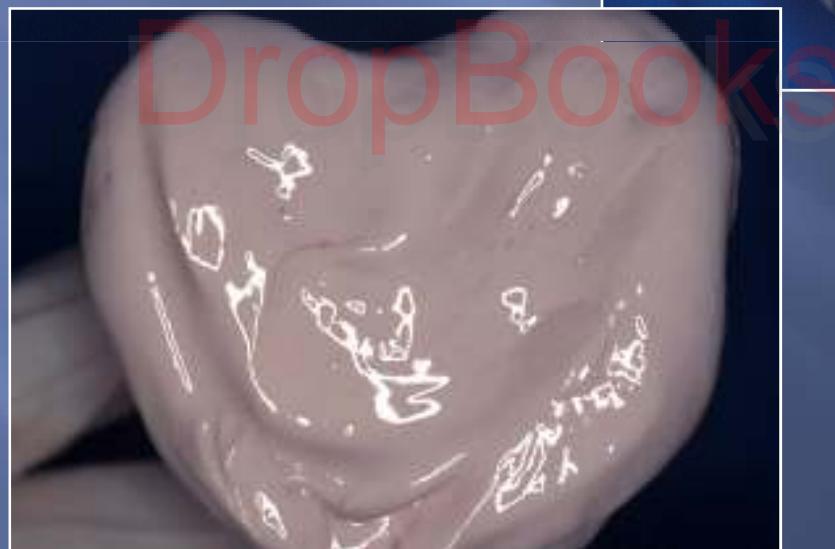
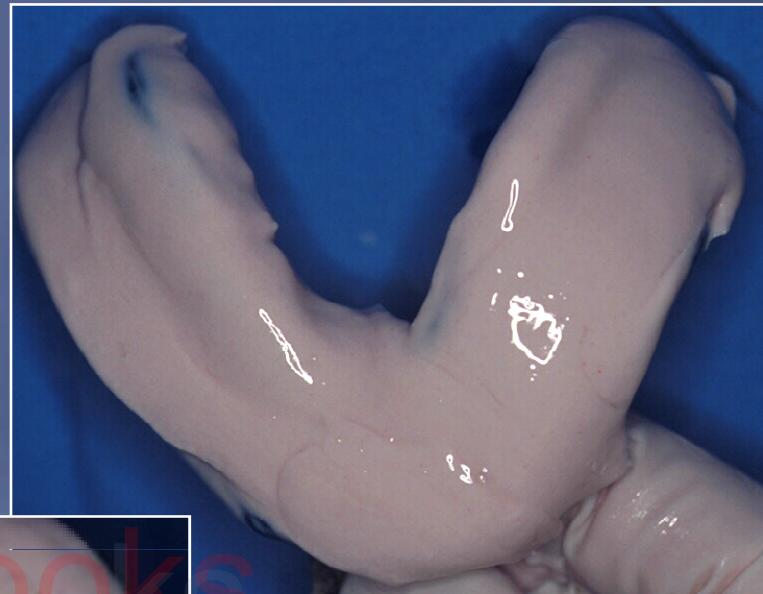
- The patient's clothing should be protected with towels
- Asking the patient to use warm mouth wash of sodium bicarbonate to dissolve the mucous
- Dry the vestibules and palate with a 2x2 gauze.



- ❑ Mix the alginate
- ❑ Use round edge spatula
- ❑ Mix in a vigorous manner using sweeping strokes against the walls of the mixing bowl
- ❑ Mix to a creamy consistency
- ❑ It is often recommended to use slightly **less water** than the directions specify to achieve a thicker mix. This is especially useful when making the maxillary impression to reduce the likelihood of gagging.



- Load the tray then distribute and smooth material in tray using moist fingers.



Make the Impression

- Rotate tray into position
- Seat posterior portion first
- Gently border mold the impression by release air and entrapped tissues before manipulating the lip and the cheek.

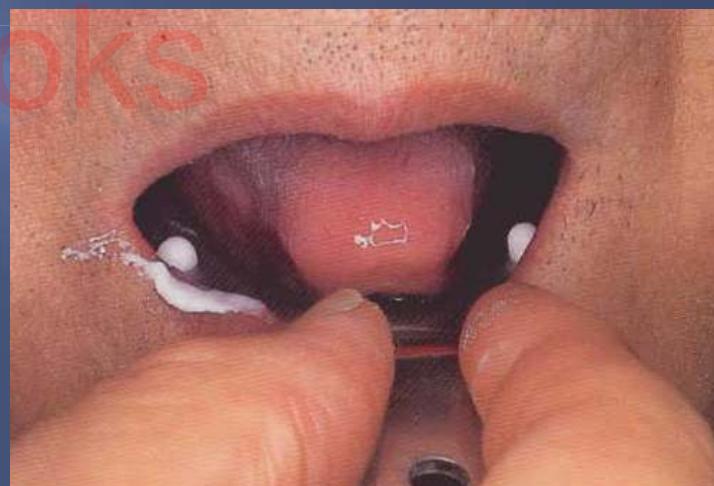


Note the forward positioning of the patient



Mandibular Impression

- Rotate tray into position
- Ask the patient to raise his tongue slightly before seating the lower tray.
- Gently border mold the impression by release air and entrapped tissues before manipulating the lip and the cheek.
- Ask the patient to move his tongue from side to side and upward touching the incisive papilla.



Completed Preliminary Impressions

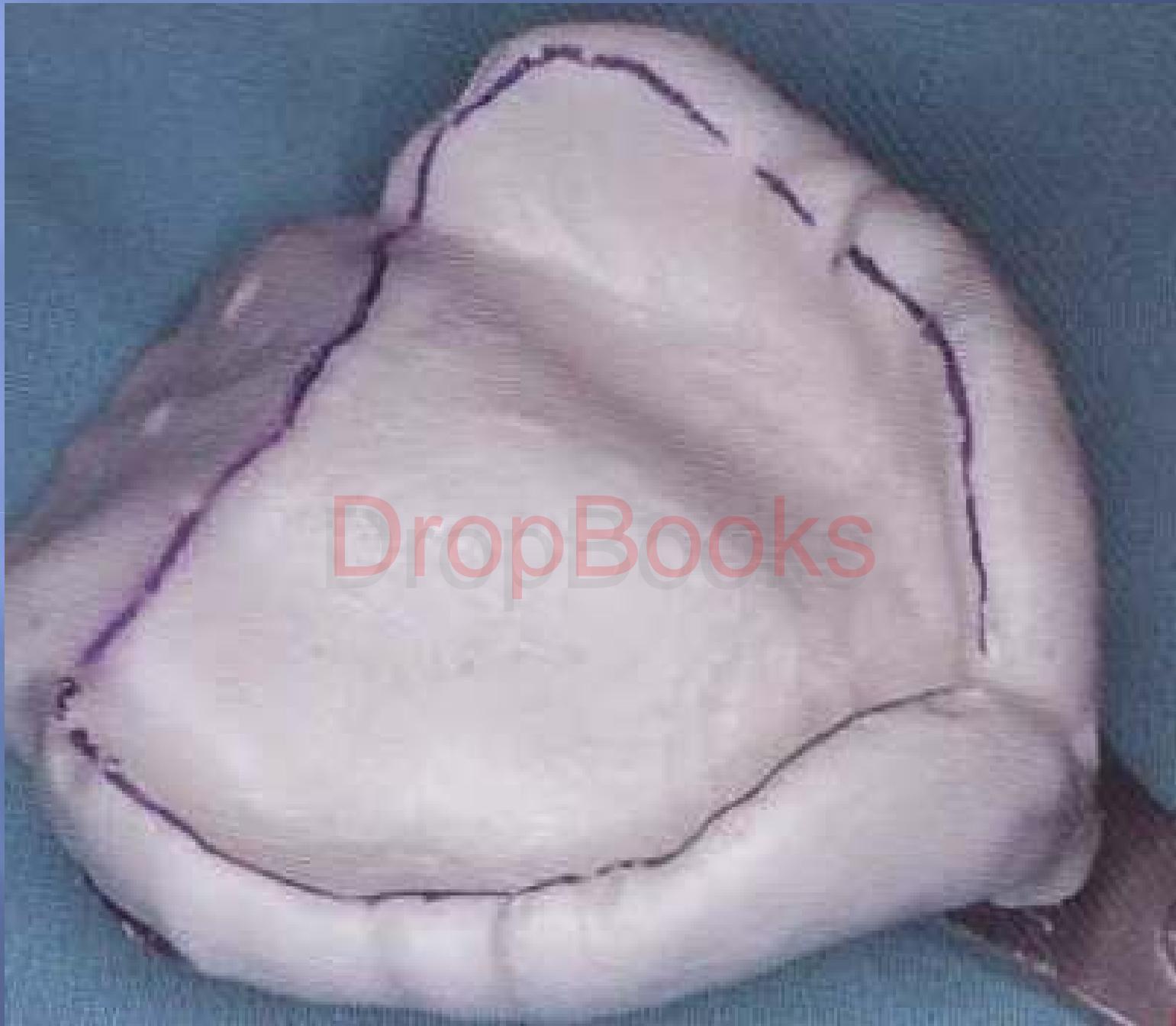
- Should have no major pressure spots or voids
- Should capture all peripheral extensions



Note the capture of the retromolar pad and the peripheral extensions.



This impression captures all of the anatomical landmarks i.e. hamular notch, posterior palatal seal, etc.

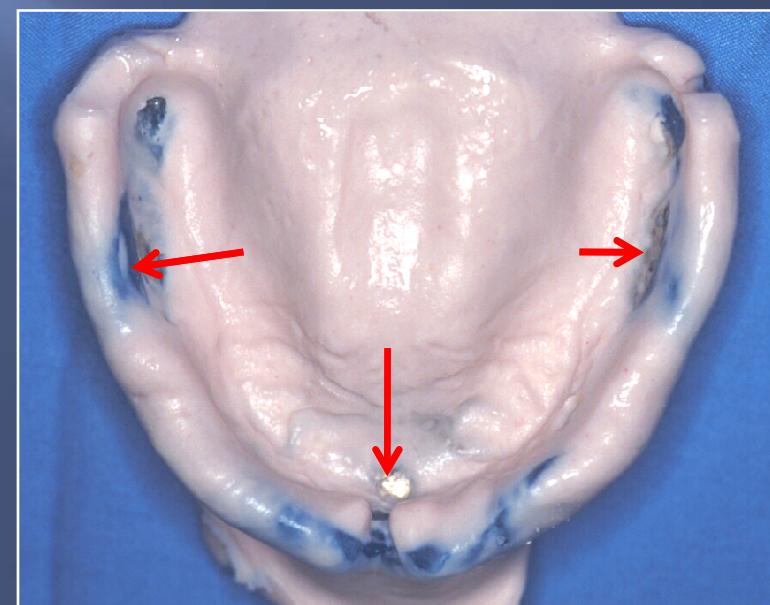
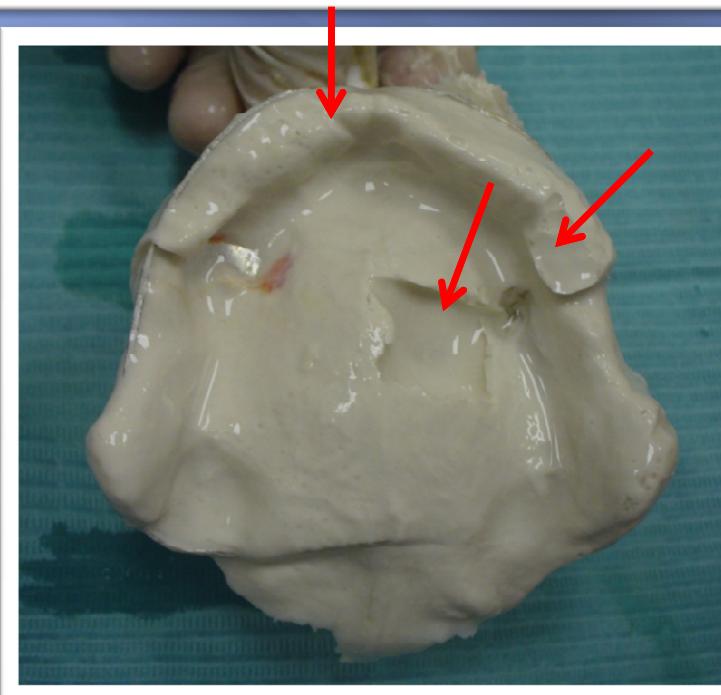
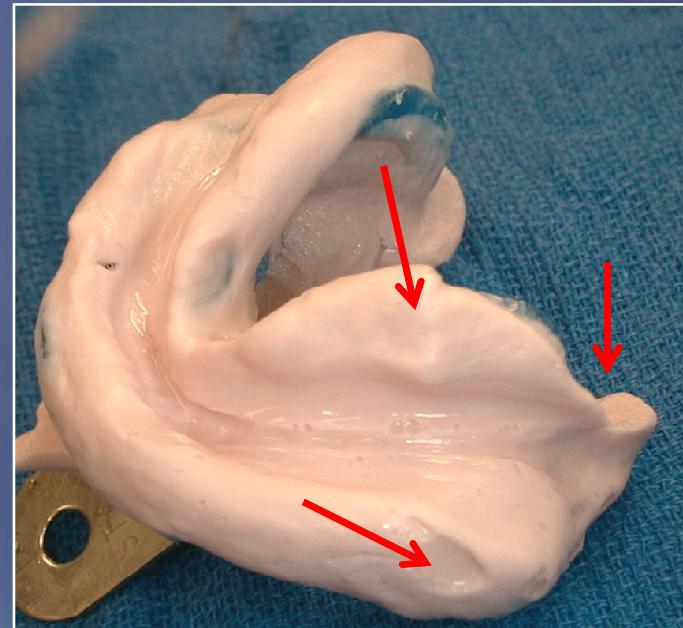
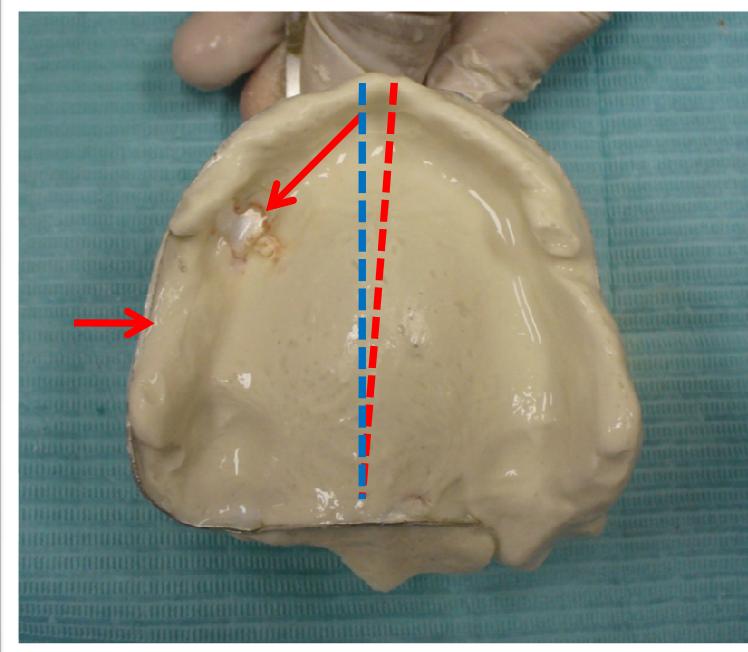


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Errors in primary impressions

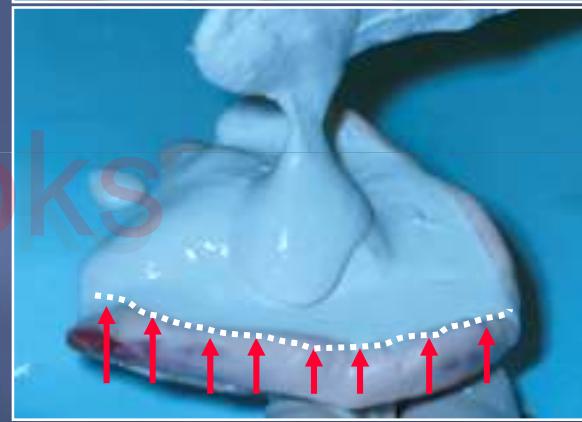
- Voids
- Improper centralization
- Pressure areas
- Over-extended border
- Under-extended border
- Improper removal of the mucous from the palate.



Pour the impression

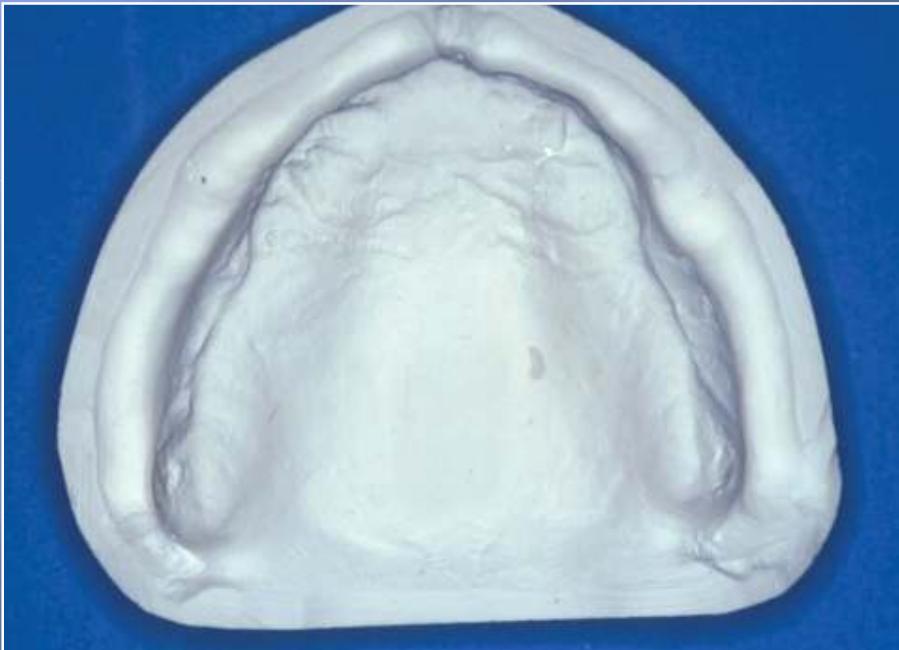
- Dense mix of plaster
- Avoid entrapment of air bubbles
- Pour the impression with adequate plaster to create a base

Note: The plaster should cover the peripheral borders of the impression.



Completed preliminary casts

- should have adequate bases
- the “tongue” area of the mandibular cast should be flat as shown



Compound impression

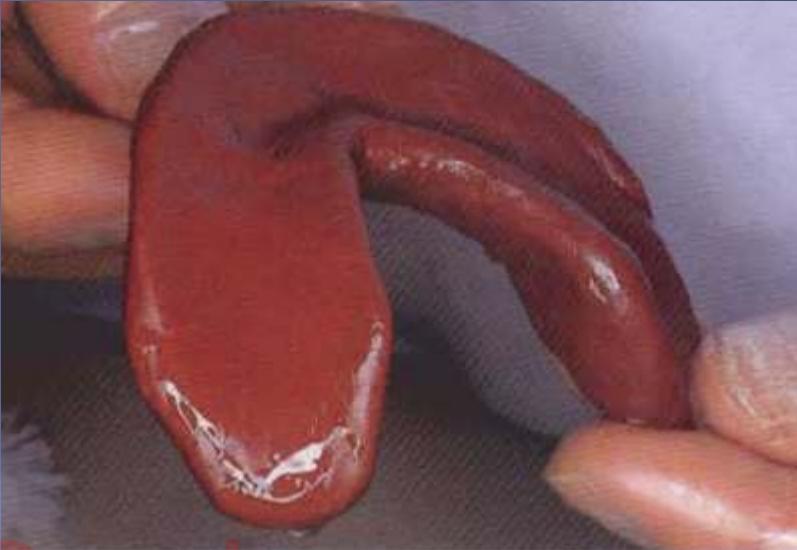
- High fusing compound is a non-elastic thermoplastic material could be used in flat ridge cases and patient with gag reflex problems.
- Compound cakes are heated in water path of 60-65 °C
- This material has low thermal conductivity so should be carefully kneaded by fingers

Lower compound impression

- ❑ Compound should be softened in a warm water bath, and then kneaded between the operator's finger before use.
- ❑ The compound for the lower impression tray should be rolled and placed within the tray.



Reshape the compound in the tray.



Loaded tray seated in the patient's mouth followed by border molding

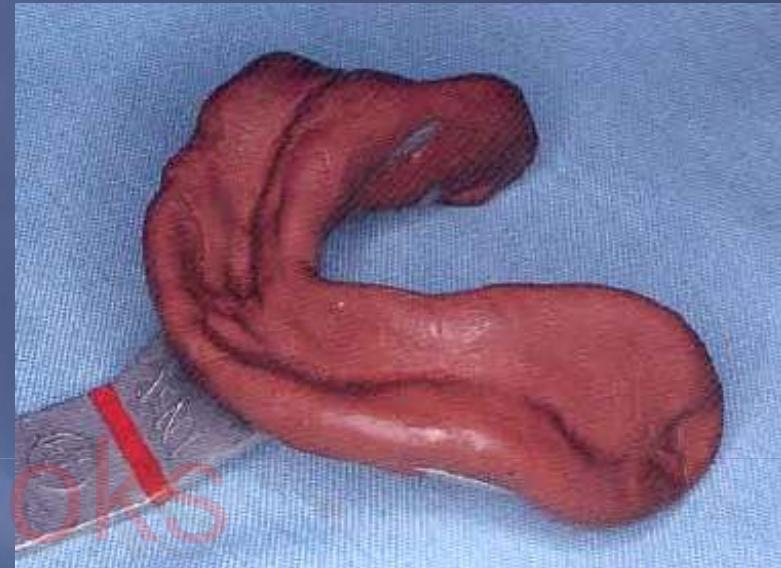


- Any defects in the impression may be locally softened the compound with alcohol torch, then tempering in hot water and reseat the tray in patient mouth.



- Impression re-inserted in patient's mouth





**Well-formed impression of
(lower) lingual sulcus area**

Upper compound impression

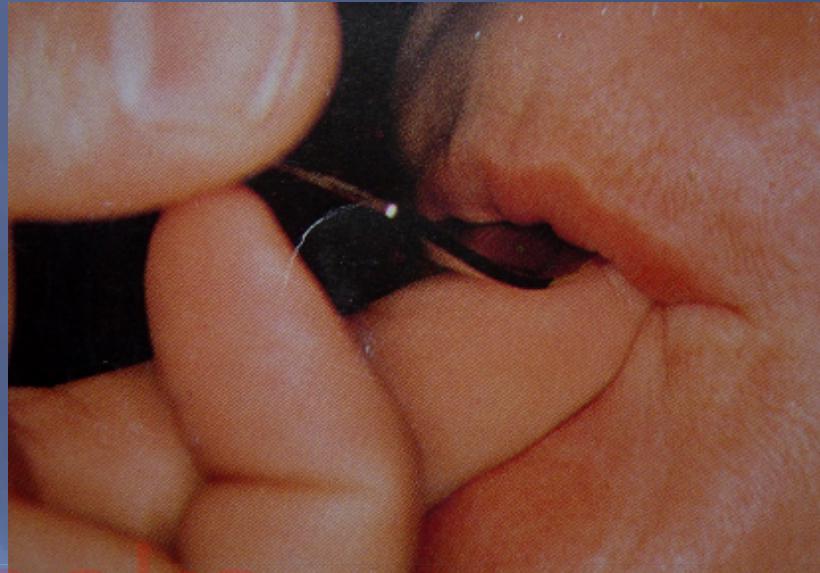
- The compound for the upper impression should be rolled into a ball placed in the center of the impression tray



- then molded with the fingers to the approximate shape of the final denture.



- The impression tray should be seated gently in patient mouth then border molded.

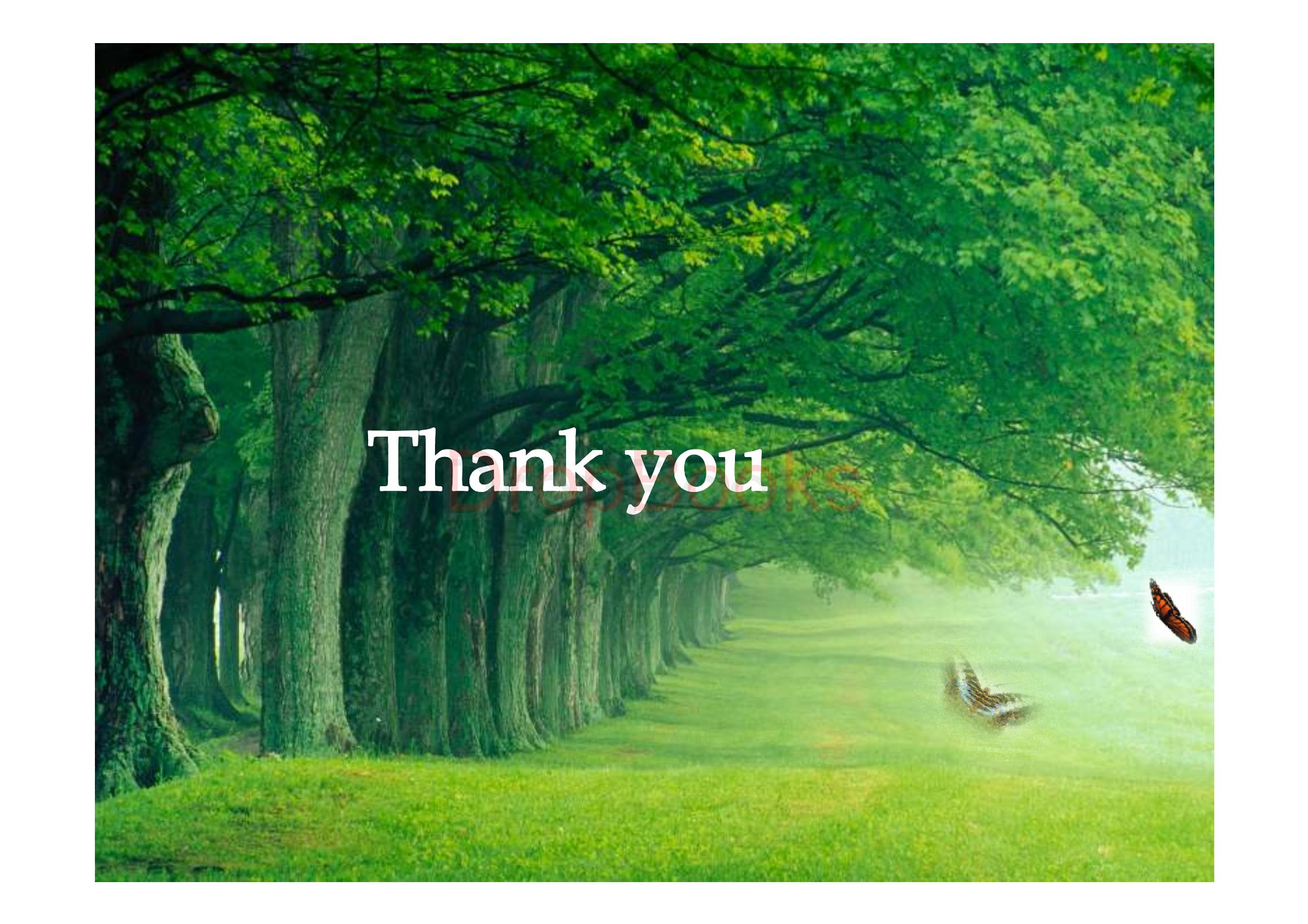


- The impression is chilled in cold water and then inspected for defects.



Management of nausea during impression making

- Check if the patient is mouth breather.
- Wrap patient cloth well with napkin and ask him to move his head forward during impression making.
- Ask the patient to breath from nose deeply.
- Avoid using excess impression material.
- Try to remove excess saliva by suction time by time.
- Interrupt the patient mind during setting of the impression.
- Use desensitizing agents topically.



Thank you

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